

W5YI

America's Oldest Ham Radio Newsletter REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

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New International Space Station Crew are all Radioamateurs

When astronauts, cosmonauts and mission specialists from many nations fly on the International Space Station, they have Amateur Radio as a constant companion.

Since its first flight in 1983, ham radio has flown on more than two-dozen space shuttle missions. Dozens of astronauts have used the *Space Shuttle Amateur Radio Experiment* (SAREX) to talk to thousands of kids in school on Earth while they were in orbit.

The Russians have had a similar program for the cosmonauts aboard the Russian Space Station MIR. When U.S. astronauts were aboard MIR in preparation for the long duration missions of the International Space Station, they used Amateur Radio for communication, including emergency messaging while MIR was in distress.

The \$60-billion International Space Station is being built jointly by the US, Russia, the European Space Agency, Canada and Japan. More than 40 missions will be required to assemble the International Space Station in orbit which is scheduled for completion in 2006.

The astronauts and cosmonauts will work hard on these missions, but they will be taking some time off for educational outreach contacts with schools. NASA's Division of Education is a major supporter of the Amateur Radio activity.

Created in 1996, Amateur Radio on the International Space Station (or ARISS) was an out-growth of the very successful amateur radio activities on the Mir space station and the space shuttle. ARISS was formed to design, build and operate

equipment aboard the Space Station. Delegates from major national radio organizations in eight nations involved with the International Space Station signed a *Memorandum of Understanding* to form ARISS. NASA and the Russian space organization Energia have also signed agreements that spell out the place of Amateur Radio on the station.

In the United States, the ARRL, and AMSAT provide leadership and consultation. The Russians have provided ports so that ham antennas can be mounted on the station's Zvezda Service Module -- the space station unit that provides living quarters for the astronauts and cosmonauts. The Italian team has designed and built antennas. The German team has built sophisticated repeater stations that will allow crews to make recorded reports on their daily activities and permit hams on Earth better contacts with men and women aboard the station.

The initial voice and packet messaging Amateur Radio equipment was delivered to the International Space Station aboard Space Shuttle Atlantis during mission STS-106 in September 2000. It consisted of VHF and UHF hand-held transceivers as well as a TNC for packet, a specially developed headset and signal adapter module plus power adapters and interconnecting cables. The ARISS gear was stowed until late October 2000 when the Expedition-1 crew came aboard which included U.S. astronaut Bill Shepherd, KD5GSL.

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Fifth crew is now aboard ISS

One American, Peggy Whitson KC5ZTD and two Russians, commander Valery Korzun, RZ3FK and cosmonaut Sergei Treschev, RZ3FU make up the new Expedition-5 crew aboard the International Space Station. All are licensed radioamateurs. Whitson, an expert in Genetic Engineering, has a doctorate in biochemistry from Rice University. Arriving aboard the shuttle Endeavour on June 7, 2002, Peggy will stay on the station for approximately 5 months.

They replaced the Expedition-4 crew which consisted of one Russian (Commander Yury Onufrienko, RK3DUO) and two Americans, Dan Bursch, KD5PNU and Carl Walz, KC5TIE. Walz and Bursch broke the U.S. space flight endurance record during Expedition Four's 196 days in space.

Upcoming ARISS school contacts

Now that the new crew of the ISS is settled in, school contacts are once again being planned and scheduled. Charlie Sufana AJ9N of the ARISS operations team has just announced their preliminary school radio contact program for the balance of the year. Over 40 schools are on the schedule. Current plans call for an average of one scheduled school contact per week. You can listen to them on a downlink of 145.80 MHz.

Expedition-5's first school contact has already taken place. Peggy Whitson KC5ZTD participated in the QSO via DN1SZA. It was with students at the Progymnasium Rosenfeld High School in Rosenfeld, Germany on July 3.

Other planned school contacts include:

Adler Planetarium & Astronomy Museum, Chicago, Illinois
Kansai Ham Festival 2002, Hirakata, Japan
High School No. 55, Kursk, Russia
Martensdale-St. Mary's School, Martensdale, IA
Silver Hills Middle School, Fairplay, CO
Spruce Hill Christian School (K-8), Philadelphia, PA
Stanley Clark School, South Bend, IN
Mikve Israel School, near Holon, Israel
Jamboree Station PI4RIS, The Netherlands
Glen Waverley Secondary College, Melbourne, Australia
Euro Space Center's Space Camp, Transinne, Belgium
Travis Elementary, Greenville, Texas and the
Center for Educational Technologies,
Wheeling Jesuit University, Wheeling, WV

Still undetermined is the effect on the ISS schedule resulting from the grounding of the NASA shuttle fleet while it looks into possible fuel line cracks. Missions are scheduled for July, August and October, when the Expedition 6 team is scheduled to arrive, and the current crew returns home.

For more information on the ARISS school contact program, go to <<http://ariss.gsfc.nasa.gov>> on the World Wide Web.

UK Announces Details Of New Amateur License Structure

Even though the Morse code requirement has not yet abolished, the British *Radiocommunications Agency* has determined and published how they will be restructuring the Amateur Radio Service.

In a recent press release, the RA said that it is "...expected that the World Radio Conference in 2003 will remove the obligation on administrations to conduct Morse tests for access to the HF bands." The agency went on to say that "...it is the UK's intention, supported by the *Radio Society of Great Britain* (RSGB), to merge the current "A" (code required, all privileges) and "B" (no code, all bands above 30 MHz) class licenses, granting current 'A' (full) license privileges to all. The three types of license will then simply be: Foundation, Intermediate and Full."

FOUNDATION: Syllabus introduced January 2002. Requires completing a training course of approximately 10 hours in duration followed by an exam of 20 multiple-choice questions administered by a registered body (such as a local Amateur Radio club). The course focuses on safety, avoiding interference and good operating practice and covers the following: Nature of Amateur Radio, License conditions, Technical basics, Transmitters and receivers, Feeders and antennas, Propagation, EMC (Electro Magnetic Compatibility), Operating practices and procedures and Safety. A "Morse assessment" is required until the code requirement is abolished.

Call signs: "M3" by three suffix letters. Operators may select available three suffix letters.

Home built transmitters are not allowed. The transmitting equipment must be either commercially manufactured or a properly-designed commercial kit.

Allows access to most (HF/VHF/UHF) amateur radio bands (except 10 meters), and restricts licensees to a maximum radio frequency output power of 10 watts.

INTERMEDIATE: A new syllabus, which will be introduced early in 2003, will be based on the current UK Novice license excluding topics already covered in the Foundation license. Applicants must first pass the Foundation level exam..

Currently requires passing a 30-hour course spread over 12-weeks on how to operate an Amateur Radio station, an outline of basic radio theory, practice in constructing your own equipment, conditions of the license and practical aspects of amateur radio. Trainees must also complete specific construction projects.

Call signs: "21" and "20" by three suffix letters.

FULL LICENSE: A new syllabus will be introduced in early 2004. Call signs issued are: "G1" to "G0" by two or three suffix letters. Current requirement is the passing of the *Radio Amateur's Examination* (RAE) administered by the City & Guilds of London Institute.

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SATELLITE RADIO NOW OPERATING COAST-TO-COAST

After ten years of planning, satellite radio broadcasting is here!

In 1992, the FCC allocated spectrum in the "S" band (at 2320 to 2345 MHz) for the nationwide satellite-based *Digital Audio Radio Service*. DARS uses satellites to provide continuous nationwide consumer radio programming with compact disc quality sound.

Oddly enough, only four companies applied for a license to broadcast over that band. The FCC gave 12.5 MHz wide licenses to two of these companies in 1997. CD Radio (now Sirius Satellite Radio) and American Mobile Radio (now XM Satellite Radio) paid more than \$80 million each to use space in the S-band for digital satellite transmission.

The *National Association of Broadcasters* fiercely opposed the creation of DARS fearing it would cut into the market share and advertising revenue of traditional over-the-air free radio broadcasters.

The big question is whether people will pay for CD-quality coast-to-coast expanded broadcast radio. XM and Sirius believe they will ...especially when 80 percent of Americans already subscribe to cable or satellite TV. The number of broadcast TV stations in a given area is limited. Not so with cable or satellite television.

The same logic applies to satellite radio. And conventional radio stations fade out after about 40 miles. Satellite signals do not and there is no static and no adjacent channel interference. The satellite footprint includes the entire continental U.S., all except Alaska and Hawaii.

XM and Sirius believe that the success of satellite radio lies with automakers. Ford Motor is a major investor in Sirius while General Motors and Honda have funded some of XM. Chrysler and several other luxury cars also will offer Sirius in their vehicles beginning this fall. General Motors Corp. is building XM receivers into Buick, Cadillac, Chevrolet, Oldsmobile, Pontiac and GMC ...as is Honda, Isuzu, Suzuki, Freightliner, and Peterbilt trucks.

The Sirius signal extends several hundred miles off the U.S. coast. West Marine, Inc., the nation's largest boating retailer will offer Sirius radios in its 250 stores.

Receiver makers, Pioneer, Alpine, Panasonic, Mitsubishi, Sharp, and Sony are on board with XM, while Kenwood, Jensen and Clarion have hooked up with Sirius. It is a huge business undertaking.

XM Radio uses two Boeing HS-702 satellites, appropriately dubbed "Rock" and "Roll," placed in parallel geostationary orbit some 22 thousand miles above the Earth. "Rock" is responsible for broadcasting to the western half of the US, while "Roll" handles the east.

Sirius uses three SS/L-1300 satellites in an inclined elliptical satellite constellation. Each satellite spends about 16 hours a day over the continental United States with at least two satellites over the country at all times.

Both firms deliver music and other programming by satellite to radio receivers in customers' cars. XM has been operating nationally for about 6 months; Sirius just expanded to coast-to-coast coverage on July 1, 2002. Both the XM and Sirius transmitted signal is encoded ...that is, scrambled.

XM offers 70 crystal-clear music and 30 news, sports, and entertainment channels. Sirius has 60 music and 40 miscellaneous channels. The monthly subscription cost for consumers is \$9.99 (XM) ...Sirius charges \$12.95 month. Sirius charges a little more, but all of its music channels are completely commercial-free. Half of XM's channels carry advertising. Both charge an initial \$15.00 activation fee. Monthly payment is by credit card.

SIRIUS CHARGES COMMERCIAL LOCATIONS (such as doctor's offices, restaurants, retail stores, greyhound buses, airlines and the like) \$24.99 monthly due to licensing and music royalty obligations that must be paid.

Sirius and XM both spent a fortune outfitting their broadcast studios. The Sirius 100,000-square-foot headquarters features 20 sound studios overlooking Rockefeller Center in New York City. XM's 60,000 square-foot facility has 80 studios in Washington, D.C. Sirius and XM each supplement their satellite coverage with terrestrial repeaters in areas where tall buildings and other structures interfere with seeing the satellite.

You can buy XM and Sirius receivers at Best Buy and Circuit City ...and some audio outlets. Radio Shack is carrying XM. Radios that add satellite programming to existing car AM/FM stereo receivers sell for \$200 and higher. The antenna is a small, flat, 2" disk that attaches to the windshield of your car. The radios can be activated online at <www.xmradio.com> or <www.sirius.com>.

XM was named 2001 "Product of the Year" by *Fortune*, an "Invention of the Year" by *Time* and won *Popular Science's* 2001 "Best of What's New" Grand Award in the electronics category. Road tests of XM and Sirius by *Sound & Vision* magazine in vehicles outfitted by the companies concluded that XM had the best audio quality.

The first Sirius and XM receivers are not be compatible, so you will have to choose which service you prefer before you purchase the hardware. Second generation radios will be able to receive either service.

The shares of XM and Sirius recently fell when a Merrill Lynch analyst reduced their investment ratings. The reason for the downgrade was the difficulty in getting operating capital. Both will need a ton of it before satellite radio takes hold.

To be profitable, XM and Sirius both need millions of subscribers. XM says they already have 150,000 customers and expect to double that figure by the end of the year. A Price-Waterhouse-Coopers research study says satellite radio will have 5 million subscribers paying \$630 million in subscriptions by 2006.

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CUTTING EDGE TECHNOLOGY

Chip makers have developed a biometric semiconductor that can read a fingerprint to verify a computer user's identity. It could someday replace user names and passwords. The technology matches live fingerprints with previously stored fingerprints. Only people whose fingerprints match those in a database can gain access to hardware (or web pages) using the technology. The fingerprint-scanning chips are being installed in computer mouses, keyboards or in stand-alone devices connected to computers.

EMERGING COMMUNICATIONS

Where will Clark Kent change into Superman? Phone booths and pay phones are going the way of the VCR and VHS tape (and vinyl records and the 8-track tape.) They simply aren't needed when most more than 100 million people carry a cell phone. AT&T and the Bell companies are phasing them out.

There are 25 percent less payphones than just five years ago and dwindling fast. It costs about \$3,000 to purchase, locate and maintain a pay phone which must average 500 calls a month to make a profit. Most pay phone companies have raised the rate of a local call to 50¢.

The transition of analog television broadcasting to digital is supposed to be complete by 2006. It is way behind schedule. *Multichannel News*, a broadcast industry trade magazine is reporting that FCC chairman Michael Powell is not happy with the consumer-electronics industry for failing to endorse his April plan to jump-start the nation's conversion to digital-television transition.

Powell had asked cable, satellite and over-the-air broadcasters, content providers and TV set makers to get on the DTV band wagon. All responded positively ...except the consumer-electronics industry.

Powell wanted TV-set makers to phase in units with digital tuners so that by December 31, 2006, all new television sets would have built-in digital-TV tuners as original equipment.

"We have not yet received a final response from the manufacturers on the phased-in inclusion of DTV tuners in the

new sets," Powell said. "I hope they will join their industry colleagues and come forward with real and tangible commitments to advance the transition."

The *Consumer Electronics Association* is expected to respond by saying that the tuner proposal is not necessary because market forces will determine consumer demand for tuner-equipped digital-TV sets. The CEA believes that the key to the transition is compatibility between digital-cable systems and digital-TV sets.

Multichannel News says some key CEA members -- including Thomson Consumer Electronics, Mitsubishi Digital Electronics America Inc. and Zenith Electronics Corp. -- will embrace Powell's tuner proposal on their own.

The CEA's version is that the analog to digital television (DTV) transition is going strong. It says "TV manufacturers are still leading the DTV charge, offering more than 300 models of DTV products including integrated sets, digital monitors and set-top receivers at affordable prices."

The key word is "products." CEA classifies DTV products as "...integrated sets and monitors displaying active vertical scanning lines of at least 480p and, in the case of integrated sets, receiving and decoding ATSC terrestrial digital transmissions."

Most of these "products" are simply TV sets that must be upgraded with a digital tuner before it can receive DTV. And even then, most will not be able to receive the wider 16-by-9 aspect ratio. Instead, most TV sets are still being sold in the nearly square 4-by-3 screen size. CEA says (on their website) "...the biggest disappointment is the relative dearth of HDTV programming."

So it is still a "Which came first? The chicken or the egg?" situation. Broadcasters (especially cable operators) and content suppliers are not ramping up high definition digital programming as they should because HDTV takes up more bandwidth, is more expensive to produce and there are not enough eye-balls to watch.

Estimates are that there are three TV sets per television household and (according to Nielsen) 105.5 million TV households. Virtually none of the more than 300 million TV sets in the U.S. have DTV-reception capability. Broadcasters understandably are catering to the 99 percent of the TV set universe out there.

And TV-set makers are still selling 90

percent of their current production in a 4-by-3 screen configuration without digital tuners installed because of the lack of widescreen HDTV programming. The impasse continues.

Digital TV sets are selling! That's what the *Consumer Electronics Association* is reporting. But it is misleading. They said more than 700,000 digital video products have been sold so far this year. "More than 150,000 were sold in May alone ...an 81 percent increase over a year ago," they trumpet.

What they didn't say is how many total TV sets are being sold ...and how many DTV sets are sold with installed digital tuners. Well, more than 30 million TV sets are sold annually. And extremely few DTV sets have an installed digital tuner.

CEA says that a total of 2.95 million DTV "products" - including integrated sets and displays - have been sold so far. It projects that 2.1 million DTV products will be sold in 2002, 4 million in 2003, 5.4 million in 2004, 8 million in 2005 and 10.5 million in 2006.

Using CEA projections, even if all those "DTV products" have installed digital tuners and are 16:9, only one third of the nation will have a digital TV set by the 2006 deadline. Very far from the 85 percent required before broadcasters can turn off their analog channel.

EarthLink launches email by phone. Subscribers will have access to their email for only \$4.95 per month - whether traveling across town or across the country -- simply by dialing a toll-free number and following the voice prompts. When subscribers call the service, a computer-generated voice automatically begins reading unread messages from their inbox over the telephone. "AudioPoint" provides the text-to-speech application.

COMPUTERS & SOFTWARE

Pop-up ads on your web browser are skyrocketing as popular search engines and web portals sell the feature to advertisers. Now there is a way to stop those annoying pop-ups in their tracks and it is free! A software tool called **Pop-Up Stopper v2.8** from Panicware simply clicks the ads away before they are shown.

The program can be quickly downloaded from <www.panicware.com>. Make sure to download from the third

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column for the completely free version. We use it and it works! If you need the pop-ups (such as to reply to a survey), you can allow pop-up windows by toggling an icon in your system tray. The icon flashes when it has stopped a pop-up ad.

Pop-Up Stopper is not advertising supported, nor does it require registration, and no information whatsoever is collected from or about product users. Complete with full Install and Uninstall. A neat program that has the support of ZD Net, CNet and PC World.

New Version 2.8 stops Netscape (4.x or 6.x) and Internet Explorer (5.x or 6.x) pop-up windows using Windows 95, 98, 98SE, ME, NT, 2000 and the new XP operating systems. A Mac version is expected next year.

Dell recently lost its ranking as the world's top PC maker when printer maker Hewlett-Packard Co. bought Compaq Computer. Dell now says it is looking at going into the printer business and may soon begin making and selling its own branded printers.

A Gartner Group research report says that it took 25 years to sell one billion personal computers worldwide. The one billionth PC was shipped in April 2002.

In the last 25 years, 75% of PCs have been sold into the workplace and 25% for home or personal use. The U.S. owns 38.8% of these computers with Europe having 25% and Asia-Pacific owning just under 12%.

Gartner predicts it will only take until 2007 to sell the next billion as high-growth markets emerge in China, Latin America and Eastern Europe.

The 1975 MITS Altair 8800 is regarded as the first commercially available personal computer, and was also the first PC to run software developed by a new software company called Microsoft.

The Altair contained an Intel 8080 chip with a clock speed of 2 MHz. Today's high end machines are more than 1,000 times faster. PC shipments declined last year for only the second time in their 27 year history.

GADGETS & GIZMOS

Low cost, remote home surveillance. Xanboo has introduced a small easy-to-install home security package.

The **Xanboo Color Video Camera (Model XCC405)** comes with a 60 ft cable, a base station (for the addition of three more cameras), and software for remote security checks. It is basically a web cam with a motion detector added. You can even remotely operate lighting with the Power On/Off Controller.

Xanboo also offers the use of their server for you to upload shots taken at a 10 second interval so you can keep an eye on your house even when you are away. The first month use of the server is free, \$14.95 monthly after that (or \$9.95 per month with an annual contract.) See the demo at: <www.xanboo.com> \$49.99.

Wireless cellphones with built-in digital cameras are making a splash in Japan and Europe. You simply aim, click, type in a phone number or e-mail address and off the photo goes to its recipient. The pictures are sent over MMS, the Multimedia Messaging Service. It works like text messaging, except that you can send a picture, text and voice all at once. Camera-phones with hefty price tags are expected to arrive in the U.S. later on this year.

Nokia's first camera mobile phone (Model 7650) is selling in Europe for \$780. It is the size of a standard pocket camera with a high-resolution color display.

Sony Ericsson's Model T68i (GSM Triband) camera-phone sells for about \$698. Phone numbers can be associated with photos so that the next time someone calls, the phone will display their picture.

You can also download your photos from the camera-phone into your PC/laptop using an infrared or "Bluetooth" wireless connection.

INTERNET & WORLD WIDE WEB

It does not look like Congress will pass any legislation this year banning Internet gambling. There are several bills pending but none are scheduled to be taken up before the August break.

A total ban is opposed by race tracks, casinos and lotteries that fear outlawing Internet gambling could upset existing operations or preclude plans to set up regulated, state-approved Web sites of their own.

The 1961 Wire Act is interpreted as a ban on Net casinos because the law restricts interstate betting on sports events and contests by telephone or wire. Ne-

vada became the first state to legalize Internet gambling last year. And Park Place Entertainment, MGM Mirage and Harrah's Entertainment already have developed software for Internet games.

Once in operation, the state of Nevada will levy a 6 percent tax on profits - the same as paid by traditional casinos. Operators will also have to pay \$500,000 every two years for an online gambling license. Gambling will only be available to those who are in Nevada.

Unregulated, offshore Web casinos take in some \$4 annually. There are more than one thousand casinos, lotteries and sports betting sites operating on the Web. About 15 million gamblers bet online and despite the U.S. prohibition, one third are from the United States. The Federal Trade Commission study found that minors can easily access Internet gambling sites.

According to researcher Nielsen/NetRatings, more people are spending more time online. The number of people around the globe using the Internet grew 18% in the past year, to 241.4 million. The average Web user goes online 18 times a month, compared to 16 times a month a year ago, and spends 9 hours 17 minutes online, up from 8 hours 15 minutes.

Nielson/NetRatings also said almost 41 million people are using an instant messaging program at home, or nearly 40% of active U.S. Net surfers. AOL-Time Warner's Instant Messenger laid claim to 21% of Web users, while Microsoft's MSN Messenger was the choice of 15%. Yahoo Messenger attracted 12%, and ICQ accounted for 4%. The research found that 31% of 12.6 million office workers used instant messaging during the month. The number of Americans using the Internet rose 1.8% to 121.5 million during May.

Consumers are becoming more comfortable shopping online. The June 2002 Yahoo/A.C.Nielsen Internet Confidence Index, which measures confidence about Internet shopping, stood at 113, up 13 points from June 2001. Next quarter, 53% of Internet users surveyed plan to shop online with average spending per shopper of \$199, compared with 42% and \$184 average per shopper in the same period last year. The total amount consumers are projected to spend online in the third quarter is \$14 billion, up 41% over last year, and up slightly

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from last quarter.

Searching, not surfing, is the No. 1 net activity. Internet users increasingly are focusing their computer time on finding specific information via search engine, rather than aimlessly clicking from one site to the next, according to new statistics collected by the Pew Internet Project.

More than 80% of all U.S. users have employed a search engine, and 29% of respondents turn to search engines every day to locate information online. Among Internet users who've been online for three years or more, the percentage of daily search engine users rises to 40%. The only activity more popular than searching is e-mail, which 52% said they did on a daily basis.

The survey results indicate that people are learning to trust the results produced by search engines, and tend to rely on them rather than scouring the Web on their own. Google ranked No. 1 in popularity, based on the average number of minutes people spend using it per month.

When search engine companies first unveiled their engines, their results were displayed based on objective criteria of relevancy tallied by algorithms.

Since Internet advertising dollars started becoming scarce two years ago, sponsored links have become popular among search engines. But they are not always clearly marked.

Recently, several search engines (including AltaVista, AOL Search, Direct Hit, iWon, LookSmart, Microsoft and Lycos) have sacrificed editorial integrity for higher profits, and list specific search results near the top when a fee is paid. (Google has always clearly identified select links as "sponsored.")

The Federal Trade Commission has now cited several major search engines for disguising ads as search engine results. The FTC is now telling the search engines to adopt "clear and conspicuous disclosure" distinguishing between paid and non-paid results.

ACLU warns of threat to online free speech from cable monopolies.

The American Civil Liberties Union says the FCC should treat cable operators as common-carriers. They want the federal government to force cable operators to carry multiple Internet Service Providers (ISPs) to prevent the Internet from being controlled by a few big mo-

nopolies.

"Unless the government changes course," the ACLU warns, "a handful of large corporations will have both the incentive and the ability to interfere with the free flow of information across the network."

At issue is the ongoing conversion by consumers from a slow dial-up Internet to far faster 'broadband' connections mostly using cable modems. ACLU says "the Internet is shifting from an open phone system to the closed cable network." It accused cable operators of "seeking to invade the privacy of Web surfers and using technical tricks to force them to use Web sites with financial ties to cable operators."

ACLU contends cable is a "predator industry that wants to monopolize the Internet through unfair and underhanded means. ...free speech is not worth anything unless the forums where free speech take place are free."

The Webby Awards honor the Best of the Internet. Amazon.com took the commerce category; Yahoo Finance won for best financial site and *The Onion*, took honors for humor. Google.com won the Best Practices Award, awarded to the site with highest overall marks from a panel of judges. The awards, selected by members of the *International Academy of Digital Arts and Sciences*, were distributed on June 18, in San Francisco.

The three biggest Web properties increased their audiences significantly between April and May, according to a report from ComScore Media Metrix. AOL-Time Warner showed the largest gain, with a 4% rise in U.S. visitors during the month, to 96.4 million. Microsoft's sites attracted 86.3 million users, and Yahoo drew 81.5 million, according to the report.

Among the fastest-growing sites were those selling tickets to the summer's big movies. <Movie-tickets.com>, owned in part by Hollywood Media and Viacom, attracted 3.1 million visitors. <Fandango.com>, owned by theater chains including Carmike and Regal Cinemas, had 2.4 million, and AOL-Time Warner's <Moviefone.com> was the biggest with 7.3 million.

Internet price war! **Amazon.com began offering free shipping in June on U.S. orders totaling \$49 or more.** Last January, the online retailer began of-

fering free shipping on \$99 orders.

Buy.com, which has become a thorn in Amazon.com's side as it undercuts the e-tailer's prices, said its book sales have surged by over 80%. All Buy.com books ship for free with no minimum purchase required.

WASHINGTON WHISPERS

Last fall, President Bush signed sweeping antiterrorism legislation that expands the government's powers to conduct electronic surveillance, obtain business and medical records, and detain immigrants without charges.

The American Library Association says the U.S. Government is treading on the privacy rights of their patrons. The FBI has begun visiting libraries across the country and reviewing the reading records and use of computer terminals by terrorist suspects.

The searches are now legal and secret under the *USA Patriot Act*. Officially known as "Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001" the legislation was signed into Public Law 107-56 October 26, 2001.

An easy-to-obtain search warrant must first be obtained from a special court that meets in secret prior to accessing library records.

Dozens of libraries have already been canvassed by federal or local law enforcement officers seeking information about customers related to Sept. 11. Librarians are prohibited by law from revealing FBI search activity.

The ALA is opposed to releasing information on their patrons and is now suggesting that libraries "review and address [their] policies on retention of and access to all types of information. Make decisions regarding data, logs and records of all types - digital and paper - to be discarded or saved."

The telecommunications sector is in chaos. FCC chairman Michael Powell has been appointed to President Bush's new interagency *Corporate Fraud Task Force*. Other members include top officials from the Justice Dept., IRS, Treasury Dept., FBI, and the SEC. The objective is investigate and prosecute financial crimes and to restore investor confidence. Look for prosecutions to start quickly.

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The Federal Trade Commission has already collected more than 8 million spam messages. And another 10,000 more arrive every day. Last year, the average e-mail user received nearly 600 pieces of unsolicited commercial e-mail (UCE). That number is expected to triple within five years.

UCE is also causing a problem for Internet service providers (ISPs) who must pay for bandwidth. The anti-spam group 'Junkbusters' estimates that one e-mail in every 25 is spam.

Twenty-two states have passed some sort of antispam legislation. California law enacted four years ago requires that unsolicited e-mail includes a viable return address and the first letters of a subject line include "ADV:" for advertisement or "ADV:ADLT" for messages that sell adult content. The problem is that the laws are not enforced.

A recent BusinessWeek article said "Congress should mandate an "opt-in" plan that requires Internet marketers to get permission before they send out e-mail promotions." The Feds generally do not want new regulations that could crimp free speech.

The FTC wants to crack down on senders of e-mail with a misleading subject line, distributors of mail that lacks a valid unsubscribe option, and sellers of "millions" of e-mail addresses on CDs.

The agency is handicapped because no federal legislation concerning spam exists. It is, however, operating within their enforcement powers over deception and misrepresentation as defined by the FTC Act.

Congress is considering an anti-spam bill authored by Senators Conrad Burns (R-Montana), Ron Wyden (D-Oregon) and Ted Stevens (R-Alaska) which has the support of both Republicans and Democrats. An amendment from Senator Barbara Boxer (D-California) has been added which would make it illegal to send spam to an e-mail address harvested from another Web site.

The so-called "Can Spam" (Controlling the Assault of Non-Solicited Pornography and Marketing) Act will enable the Federal Trade Commission to prosecute spammers and levy fines of up to \$10 per e-mail with a cap of \$500,000.

A similar bill introduced by Rep. Bob Goodlatte, a Republican from Virginia is working its way through the House of

Representatives.

On May 14, 2002 President Bush signed into law the Enhanced Border Security and Visa Entry Reform Act of 2002 (H.R.3525). It is part of a plan for the U.S. Government to track the movement of those with temporary visas.

Three of the nineteen Sept. 11 terrorist hijackers had overstayed their visas, and alleged ringleader Mohammed Atta had asked the Immigration and Naturalization Service to change his business visa to a student visa.

The INS has now quietly launched a Web site that the nation's colleges and universities must use to register foreign students. The real-time, interactive computerized database replaces an antiquated, paper-driven process.

The password-protected website provides tracking, monitoring, and access to accurate and current information on all non-immigrant students and exchange visitors.

The site began operation on July 1st and all schools must use the "SEVIS" (Student and Exchange Visitor Information System) tracking site beginning January 30, 2003 or will not be allowed to admit foreign students.

Schools must also report if a student is taking courses in subjects that might provide useful information to terrorists — such as chemistry or nuclear physics. Database is located at: <www.ins.usdoj.gov/sevis>.

The Association of International Educators opposes the monitoring system on the grounds that it unfairly targets foreign students and visitors.

Surveillance spy cams pick the bad guys out of huge crowds ...or do they? — At least two cities in the nation are routinely using digital face-scanning technology on tourists as a way to secretly identify and catch people wanted by the police.

Virginia Beach, VA and Tampa, FL, both popular entertainment centers for tourists, employ facial-recognition software on their ocean-front beaches. Not everyone is in favor. The American Civil Liberties Union say facial scanning is "...inaccurate, an invasion of privacy and violate a citizen's constitutional rights."

Virginia Beach's regular closed-circuit TV cameras and traffic cams are being supplemented by three additional cameras that will feed images to the police. The

software measures 80 points on the face and an immediate alert is sounded if 14 match a facial database of known criminals, terrorists, missing people, runaways and those with outstanding arrest warrants. The police then radios officers on the beach to take further action.

The government has possession of a huge, ready-made facial image database - driver's license photos - and is looking into how they can be used. By law, the government can't sell those photos to private companies, but there are no prohibitions on their use for surveillance purposes by the government itself. The Federal government has begun to fund pilot projects on expanding the use of driver's license photos to facial recognition databases.

Airports that have announced adoption of facial recognition technology include Logan Airport in Boston, T.F. Green Airport in Providence, R.I., and San Francisco International Airport and the Fresno Airport in California.

The ACLU recently obtained data under Florida's open-records law on a face-recognition test by security professionals at the Palm Beach (Florida) International Airport.

The system failed to match volunteer employees who had been entered into the database 503 out of 958 times, a 53 percent failure rate: "...less accurate than a coin toss," the ACLU said. "Under real world conditions, Osama Bin Laden himself could easily evade a face recognition system. All a terrorist would have to do, it seems, is put on eyeglasses or turn his head a little to the side." The Palm Beach report is online at: <www.aclu.org/Issues/Privacy/FaceRec_data.pdf>

Tampa reportedly has installed 42 of the surveillance cameras and used the equipment to scan fans attending the 2001 Super Bowl. "The results: no hits, no arrests, many false positives." The ACLU has created a special web feature on face recognition technology, including an online report on Tampa's system, at: <www.aclu.org/Issues/Privacy/FaceRec_Feature.html>.

The so-called "Digital Divide" is narrowing. A UCLA study shows that in 2001, about 65 percent of those who did not graduate from high school used the Internet, compared with 60 percent of high school graduates and 80 percent of those with some college education. The previous year, 60 percent

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of those who did not graduate from high school used the Internet, compared with 54 percent of high school graduates and 70 percent of those with some college education.

A Dept. of Commerce study shows that about 54 percent of the total population had access to the Internet in 2001; in rural areas alone, 53 percent of the population had access.

A 1998 Pew Research Center study found that 23 percent of blacks and 42 percent of whites had Internet access. In 2000, the percentage of black adults who have Internet access grew 13 percentage points, to 36 percent; for whites, the online population grew 8 percentage points, to 50 percent.

The Bush administration has seized upon the findings as a reason to reduce funding for programs that bring computers to low-income Americans.

Is broadband a telecom service or an info service? The answer to that question will make a lot of difference, especially to the FBI and the Justice Department, which rely on a law requiring "telecommunications" services to be designed in a way that would allow law enforcement officials, with a court order, to monitor activity of suspected criminals or terrorists.

By contrast, there is no such requirement for "information services." The FCC is being asked to rule that electronic surveillance access rules also apply to the broadband information offerings of phone and cable companies. (USA Today, July 8, 2002)

White House promises boost for broadband. An audience of technology company executives in Washington D.C. heard President Bush say that he will push the FCC and Congress to speed up the spread of high-speed Internet access

"This country must be aggressive about the expansion of broadband," Bush told the group at its meeting near the White House. He said the FCC is reviewing options and that he would also encourage Congress to make research and development tax credits available.

AMATEUR RADIO NEWS

A special presentation of 'commemorative microphones' honoring the operators of the Queen

Mary Amateur Radio station will be made by Bob Heil, K9EID, President of Heil Sound Ltd. and Joe Walsh WB6ACU, an avid Amateur Radio operator and guitarist with the Eagles, on July 27th at 2:00 PM Pacific Time in the ship's Wireless Room.

Many prominent Southern California amateur radio operators will be on hand to assist in the presentation. The new microphones are an exact replica of the broadcast microphones used by radio stations and recording studios during the years the Queen Mary was at sea.

The Queen Mary, permanently docked on the water in Long Beach, is a popular Southern California attraction. Their W6RO Amateur Radio station operates daily from the ship's historic Wireless Room.

The six new 'commemorative microphones' are being built specifically for this internationally known radio station by Heil Sound Ltd. of Fairview Heights Illinois.

Heil Sound Ltd. is a leading research and manufacturing firm specializing in high quality audio equipment for the Amateur Radio and personal communications markets.

FCC Amateur Radio Enforcement

Richard E. Crow, KB6IAT (Long Beach, CA) has received an inquiry from the FCC seeking more information on two club call signs that were issued to him. The club call signs are: WB6FCC (Richard Burton ARC) and WB6JAM (Jammers for Jesus ARC.) The FCC wants Crow to provide justification for these clubs along with a list of the members and the club meeting dates. The FCC said it would cancel the call signs if Crow did not respond satisfactorily.

On February 5, 2002, agents from the San Francisco CA office inspected the station of **Stanley Clewett, KF6IKC, an Amateur Extra in Redding, CA.** Clewett had posted on his own web page pictures of a purported 10kw amplifier he was using on the CB frequencies. No other details of the inspection were released by the FCC and the matter is still under review.

The FCC continues to look into a February 17, 2001, VE test session in Statesboro, GA where certain discrepancies were discovered including a report that the contents of the Morse code exams were released prior to the examination.

Stephen I. Holt, KE6WSJ (West Hills, CA) has been questioned by the FCC about reports that he has "deliberately and maliciously interfered with the WB6VVV repeater in Palmdale, CA on numerous occasions since early April of this year."

"On May 29, 2002, close-proximity direction finding showed that these signals were originating in your apartment in Lancaster, CA," FCC said. "The interference to the WB6VVV repeater has consisted of threats of sexual assault made to juvenile licensees operating on the repeater, obscene and indecent language and other harassment of female users and operators of the repeater."

The Commission stated "These actions subject you to criminal prosecution and a monetary fine of up to \$10,000, along with revocation of your Station license and suspension of your Operator license."

Holt has been ordered to furnish full details of his repeater operation within 20 days. "The information you submit will be used to determine what action to take in this matter." Holt was given the option of terminating the inquiry by submitting his license for cancellation within the 20 day period.

Keith Hulbert, Managing Director of the Lakeland (Florida) Electric Company has been asked by the FCC to respond to complaints that equipment operated by his utility company may be causing harmful radio interference to **J.C. Flynn, W4FGC of Lakeland.** "The complainant has attempted unsuccessfully to work through your usual complaint resolution process" Hulbert has been requested to advise the complainant within 30 days of what steps his utility company is taking to correct this reported interference problem.

Michael E. Horn, KB8GDF (Lenore, WV), Carl E. Tussey, KB4UCE (South Williamson, KY) and Kenneth E. Brown, KF8HL (Davin, WV) have been notified that their uncoordinated KF8HL repeater operating on 145.390 MHz in Mingo County, WV is interfering with coordinated repeater, KC8FKP, operated by the Portsmouth Radio Club on the same frequency. "As the uncoordinated repeater, KF8HL has the primary responsibility to avoid interference to the KC8FKP repeater...." They are to advise the FCC the steps they are taking to eliminate the interference complaints."

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FCC INCREASES FEE CHARGED FOR VANITY CALL SIGNS

The FCC proposed last March to increase the Fiscal Year 2002 Regulatory Fee paid by radioamateurs who are issued a Vanity station call sign from \$12.00 to \$14.50. (MD Docket No. 02-64.)

The cost increase is based on the estimated number of applicants applying for Vanity call signs plus other factors. It said the effective date of the new fee would be announced in a follow-up *Report and Order*. The comment period on the new FY 2002 Regulatory Fees closed on April 23.

On July 5, 2002, the FCC issued a *Report and Order* entitled "Assessment and Collection of Regulatory Fees for Fiscal Year 2002." In it, the FCC said "We must collect \$218,757,000 through regulatory fees to recover the costs of our competition, enforcement, spectrum management, and consumer information activities for FY-2002. This amount is \$18,611,000 or approximately 9.3% more than the amount designated for recovery through regulatory fees for FY 2001. We are revising our fees in order to collect this amount...."

Basically, the Commission increased their FY2001 fees by 9.3%. The fee for Vanity call signs, however, was increased by 20.8% ...from \$12.00 to 14.50.

Referring to the NPRM comments it received, the FCC said that "Amateur licensees Steven Karty, N5SK and William J. Hanrahan, W1WH support the payment of a regulatory fee for the initial administrative cost actually incurred by the Commission, but question why the amateur Vanity call sign fee must be paid upon renewal."

The FCC responded by saying that "Section 9 of the Communications Act, as amended, provides for the recovery of the Commission's costs associated with its enforcement, policy and rulemaking, user information, and international activities. Every day, Commission staff are engaged in activities involving amateur Vanity call signs, such as protecting the assignment of Vanity call signs, investigating complaints on the improper or illegal usage of call signs, requests for call signs that are already assigned to someone else, and all related research that is necessary to insure the proper assignment of call signs. Therefore, because the Commission continues to incur costs on Vanity call signs even after the issuance or renewal of amateur Vanity call signs, we believe that it is appropriate to assess such a regulatory fee upon the renewal of Amateur Vanity Call Sign licenses."

The R&O ordering clause states: "Amateur Vanity Call Signs: This category covers voluntary requests for specific call signs in the Amateur Radio Service authorized under Part 97 of the Commission's Rules. Applicants for Amateur Vanity Call Signs will continue to pay a \$1.20 annual regulatory fee (\$12.00 per ten year term) per call sign, as prescribed in the FY 2001 fee schedule,

payable at the time of application for a Vanity call sign until the FY 2002 fee schedule becomes effective September 9, 2002. For FY 2002, Amateur Vanity Call Sign applicants will pay a \$1.45 annual regulatory fee (\$14.50 per ten year term) per call sign, payable at the time of application for a new, renewal or reinstatement license."

The Commission estimated that 9,000 radioamateurs would be issued a Vanity call sign during FY2002 which at \$14.50 equals an incoming revenue estimate of \$130,500.

CQ: "OFFICIAL JOURNAL OF 'THE HUMAN RACE'"

CQ Amateur Radio magazine has been named the Official Journal of "The Human Race," according to Editor Rich Moseson, W2VU, and "The Human Race" Producer William Desjardins, W1ZY. "The Human Race" is a planned educational television series in which two amateur radio operators will participate in a global "road rally" one heading east and one heading west with transportation limited to that volunteered by other amateur operators that the ham competitors meet along the way. The race will begin in Kansas City, Missouri, and end in a location roughly halfway around the world where the paths of the two competitors intersect.

"'The Human Race' is based on the premise that amateur radio is inherently a human activity in which technology is a tool used by people around the world to connect and communicate with each other," explained Moseson, "and this is a premise which CQ wholeheartedly supports."

Each competitor will be accompanied by a TV production crew and tracked using GPS (Global Positioning System) and APRS (Automatic Position Reporting System), with a constantly updated website enabling hams and others around the world to follow the progress of the race. Each competitor/crew will also be outfitted with advanced communications systems, including amateur stations.

Along the way, each racer encounters a series of pre-selected "ham hosts," who have each been chosen for an area of expertise in a particular area of amateur radio. They not only play host to the amateur, but also are interviewed by the competitor about their area of specialty and the role ham radio has played in their lives.

CQ will publish a series of articles and updates written by "The Human Race" Producer Desjardins, and will provide updates and additional information on its website. The tentative schedule calls for the race itself to be run between June and December of 2003, with the completed 8-part series ready to air in the fall of 2004.

For more information see "The Human Race," at the program website: <<http://www.home.earthlink.net/~bdesj>> (soon to be moved to <<http://www.humanrace.org>>).

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WIRELESS BROADBAND COMPUTER NETWORKING

The wireless Internet has reached the big time. Like a cordless phone, it allows you to use your laptop PC anywhere in your home – or even at public places – without wires or cables. The technology is called wireless fidelity ... "Wi-Fi" for short.

Juniper Research said worldwide service revenues for Public Wireless LANs (PWLAN) will reach \$9.5 billion in five years time. Their recent in-depth report assesses the rapidly emerging market of the high-speed Internet access to public venues and private buildings using 'free' unlicensed spectrum and Wireless LAN (local area network) technologies, such as 802.11.

"The ability of 802.11, and other WLAN technologies, to provide 'last mile,' and public hotspot access, has catapulted the technology to the forefront of both the broadband and mobile internet sectors," Juniper said. "It is the simplicity of WLAN that makes the technology so attractive, with no licenses to win (or pay for), no nationwide infrastructure to build (or pay for), and no significant technology risks to gamble. The equipment is standards-based, relatively low cost and simple to deploy...."

"The WLAN market has evolved from what was a relatively unknown entity to a major technological achievement that will affect people's access to all forms of data - including the internet, multimedia and entertainment - in locations as broadly based as their homes, businesses and public 'hotspots.'"

WLAN technology takes a high speed Internet connection that comes into your home or business over a phone wire or cable modem and changes it to a microwave (2.4 GHz) radio signal. The demand for residential wireless networks is an outgrowth of two factors -- the increasing prevalence of homes with fast Internet connections and multiple PCs.

802.11 refers to a family of specifications developed by the IEEE in 1997 for wireless LAN technology. It specifies an over-the-air interface between a wireless client and a base station or between two wireless clients.

There are several specifications in the 802.11 family. Wi-Fi is also another name for IEEE '802.11b' ... a wireless transmission standard overseen by the *Wireless Ethernet Compatibility Alliance* (WECA). WECA certifies its member's equipment as conforming to the 802.11b standard. Products certified WECA are interoperable with each other even if from different manufacturers.

802.11b is an extension of wired Ethernet, bringing the same principles to wireless communication. The IEEE 802.11b standard allows for the wireless transmission of approximately 11 Mbps of raw data at indoor distances from several dozen to several hundred feet and outdoor distances of several to tens of miles as an unlicensed use of the 2.4 GHz band. The distance depends on impediments, materials, and line of sight.

The standard calls for 14 channels, which are staggered at a few megahertz intervals, from 2400 MHz to 2483.5 Mhz. Different channels are legal in different countries, and only channels 1, 6, and 11 have no overlap among them.

802.11b has also become the standard deployed for public short-range networks, such as those found at airports, hotels, conference centers, coffee shops (such as Starbucks) and restaurants. Several companies currently offer paid hourly, session-based, or unlimited monthly access via their deployed networks around the U.S. and internationally.

Wi-Fi operates through a "gateway" ... a base station that transmits the Internet to any Wi-Fi-enabled PC or PDA (personal digital assistant.) A basic wireless network requires two devices, a base "gateway" station (also referred to as an "access point") and a wireless card for a laptop, PC or PDA. You simply plug the gateway (about \$200) into your cable modem or DSL. A Wi-Fi card (about \$60) with a protruding antenna goes into your laptop, PC or PDA. A user with a Wi-Fi product can use any brand of base station with any other brand of client hardware that is built to the Wi-Fi standard.

That's all there is to it. The range indoors is predictably around 100 feet depending on building construction and layout. There is a potential for interference with other home gadgets like microwave ovens and newer cordless phones, which operate in the same 13-cm radio band.

Aside from buying a base station and wireless card, the only additional expense is the monthly Internet connection, typically \$40 to \$50 for broadband access. The number of wireless home networks is expected to nearly double this year.

You may need a router if your high speed connection is hard-wired to a desktop PC. This allows both the PC and the Wi-Fi base station to plug into the cable modem or DSL.

The wireless Internet is not confined to homes and small businesses. Companies such as restaurants, airports and hotels are making a push to set up local Wi-Fi "hot-spots" – PWLANs (public wireless local area networks) for which they charge users a fee to get online. The costs of starting up a "hotspot" is low and existing wired phone carriers and ISPs are getting into the business.

Technology enthusiasts across the country are also setting up competing, free community networks by sharing their home Internet connections with the neighborhood. The spread of Wi-Fi is also creating new problems for Internet providers. Some users are splitting the cost of their high speed connection with neighbors. Internet Service Providers have no problem with users sharing Web connections within their own home, but consider offering service to friends as a form of theft of service.